UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,855	11/19/2001	Tero Heinonen	0144US-Locus	3771

23521	7590	02/22/2006

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EXAMINER
RAMAKRISHNAIAH, MELUR

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
		10/001,855	HEINONEN ET AL.
Office Action Summary		Examiner	Art Unit
		Melur Ramakrishnaiah	2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>19 November 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☒ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date <u>4-10-02, 9-10-02, 9-30-02</u>

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-11, 15 are rejected under 35 U.S.C 102(e) as being anticipated by

Dupray (USPAT: 6,249,252, filed 4-23-1999).

        Regarding claim 1, Dupray discloses a method for locating mobile terminals in a

mobile network, the method comprising the steps of: receiving the location-dependent

parameter sets, each parameter set comprising at least one parameter indicative of the

location of a mobile terminal (140, fig. 4), and determining location estimate for a

parameter set received, the location estimate indicating the location of the respective

mobile terminal, characterized by the steps of: for an individual first parameter set,

forming a matrix (col. 28, TABLE LH1) corresponding to the set, the matrix comprising a

plurality of elements, whereby each element is associated with a certain geographical

area and contains a value indicating a probability of the mobile being within the area,

storing one matrix formed for a mobile, and in response to a second parameter set

substantially received for the mobile, updating the values of at least one matrix for the

mobile, determining the location estimate on the basis of the element values of the

matrix corresponding to the second parameter set and on the basis of the element

values of the at least one matrix having the updated values (figs. 4-5; abstract; col. 23 lines 21-31; col. 38 lines 4-18; col. 3 lines 41-52; col. 27, line 62 – col. 29, line 12; col. 35 lines 11-33; col. 7 lines 48-51; col. 30 lines 36-66; col. 44 lines 27-35; col. 27 lines 1-52; col. 13 lines 22-29; col. 41 lines 52-61).

Regarding claim 11, Dupray discloses a system for locating mobile terminals in a mobile network, the system comprising: a first means in (142, fig. 4) for receiving parameter sets, each parameter set including at least one parameter indicative of the location of individual mobile terminal (140, fig. 4), a second means in (142, fig. 4) for finding a location estimate for a parameter set received, the location estimate indicating the location of the respective mobile terminal, characterized in the system comprises third means in (1232, fig. 5) for forming a matrix (col. 28, TABLE LH1) corresponding to each parameter set, the matrix comprising a plurality of elements, whereby each element is associated with certain geographical area and contains a value indicating probability of the mobile being located within the area, and fourth means in (1232, fig. 5) for storing at least one matrix formed for mobile, wherein the second means, responsive to parameter set receded for the mobile, are adapted to (a) to update the values of the at least one matrix store for the mobile and (b) to determine the location estimate on the basis of the element values of the matrix corresponding to the parameter set received and on the basis of the element values of the matrix with the updated values (figs. 4-5; abstract; col. 23 lines 21-31; col. 38 lines 4-18; col. 3 lines 41-52; col. 27, line 62 – col. 29, line 12; col. 35 lines 11-33; col. 7 lines 48-51; col. 30 lines 36-66; col. 44 lines 27-35; col. 27 lines 1-52; col. 13 lines 22-29; col. 41 lines 52-61).

Regarding claims 2-11, 15, Dupray further teaches the following: combining the element values of the matrix corresponding to the second parameter set received and element values of the at least one matriux having the updated values according to predetermined rules , whereby a combined matrix is obtained, and defining the location estimate on the basis of the combined matrix, the storing step includes storing the combined matrix, the updating step includes updating the values of the combined matrix contained in connection with a preceding parameter set received for the mobile, updating step includes updating values repetitively in successive calculation cycles whereby the updated values obtained in a calculation cycles are updated in the next calculation cycle, the number of calculation cycles is directly proportional to the time elapsed since the updating step performed in connection with the preceding parameter set for the mobile, forming step includes weighting the values on the basis of map information describing surface types of the geographical areas, updating step includes weighting the values of the at least one matrix: on the basis of information indicating the movement of the mobile, on the basis of map information describing surface types of the geographical areas, forming step includes calculating the matrix in response to a parameter set received, calculating plurality of matrices in advance, associating each matrix with at least one parameter set, and in response to a parameter set received, retrieving a matrix corresponding to parameter set, compute readable storage means (142, fig. 5), the product being adapted to perform the steps of claim 1 when run on a computer (figs. 4-5; abstract; col. 23 lines 21-31; col. 38 lines 4-18; col. 3 lines 41-52;

col. 27, line 62 – col. 29, line 12; col. 35 lines 11-33; col. 7 lines 48-51; col. 30 lines 36-

66; col. 44 lines 27-35; col. 27 lines 1-52; col. 13 lines 22-29; col. 41 lines 52-61).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 12-14, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Dupray in view of Kubo et al. (GB 2329801 A, hereinafter Kubo).

Regarding claim 12, Dupray teaches the following: first means in (142, figs 4-5)

for receiving parameter sets, each parameter set including at least one parameter

whose value is dependent on the location of the mobile terminal within the network,

second means in (142, figs 4-5) for finding a location for a parameter set received, the

location estimate indicating the location of the mobile terminal, characterized in that it

comprises third means in (142, figs 4-5) for storing at least one matrix, the matrix

comprising plurality of elements (col. 28, TABLE LH1), whereby each element is

associated with a certain geographical area and contains a value which indicates a

probability of the mobile locating within the area, wherein the second means, responsive

to parameter set received are adapted (a) to update the values of at least one matrix

stored in memory and (b) to determine the location estimate on the basis of element

values of the matrix corresponding to the parameter set received and on the basis of the

element values of the matrix with the updated values (figs. 4-5; abstract; col. 23 lines

21-31; col. 38 lines 4-18; col. 3 lines 41-52; col. 27, line 62 – col. 29, line 12; col. 35

lines 11-33; col. 7 lines 48-51; col. 30 lines 36-66; col. 44 lines 27-35; col. 27 lines 1-52;

col. 13 lines 22-29; col. 41 lines 52-61).

Regarding claims 13-15, Dupray further teaches the following: means in (1232,

fig. 5) means for forming a matrix corresponding to a parameter set received, means

(112, fig. 5) for downloading from the mobile network a predetermined matrix

corresponding to a parameter set (figs. 4-5; abstract; col. 23 lines 21-31; col. 38 lines 4-

18; col. 3 lines 41-52; col. 27, line 62 – col. 29, line 12; col. 35 lines 11-33; col. 7 lines

48-51; col. 30 lines 36-66; col. 44 lines 27-35; col. 27 lines 1-52; col. 13 lines 22-29; col.

41 lines 52-61).

Dupray differs from claimed invention in that he does not specifically teach

implementing the location procedure in a mobile telephone.

However, Kubo discloses systems for detection of the position of a radio mobile

station which teaches the following: implementing the location procedure in a mobile

telephone.(fig. 9; page 8 lines 1-28; page 16, lines 3-10; page 17 lines 20-22; page 19,

line 20 – page 20, line 9; page 24, lines 13-23; page 23, lines 4-11; page 26 lines 4-17;

page 62 lines 3-5).

Thus, it would have been obvious to one of ordinary skill in the art at the time

invention was made to modify Dupray's system to provide for implementing the location

procedure in a mobile telephone as this arrangement would provide one of the methods,

among many possible methods, for implementing location procedure for determining

location of the mobile terminal as taught by Kubo.

Regarding claim 16, Dupray discloses a method for locating mobile terminals in a

mobile network, the method comprising the steps of: receiving the location-dependent

parameter sets, each parameter set comprising at least one parameter indicative of the

location of a mobile terminal (140, fig. 4), and determining location estimate for a

parameter set received, the location estimate indicating the location of the respective

mobile terminal, characterized by the steps of: for an individual first parameter set,

forming a matrix (col. 28, TABLE LH1) corresponding to the set, the matrix comprising a

plurality of elements, whereby each element is associated with a certain geographical

area and contains a value indicating a probability of the mobile being within the area,

storing one matrix formed for a mobile, and in response to a second parameter set

substantially received for the mobile, updating the values of at least one matrix for the

mobile, determining the location estimate on the basis of the element values of the

matrix corresponding to the second parameter set and on the basis of the element

values of the at least one matrix having the updated values (figs. 4-5; abstract; col. 23

lines 21-31; col. 38 lines 4-18; col. 3 lines 41-52; col. 27, line 62 – col. 29, line 12; col.

35 lines 11-33; col. 7 lines 48-51; col. 30 lines 36-66; col. 44 lines 27-35; col. 27 lines 1-

52; col. 13 lines 22-29; col. 41 lines 52-61).

Dupray differs from claimed invention in that he does not specifically teach

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However, Kubo discloses systems for detection of the position of a radio mobile

station which teaches the following: implementing the location procedure in a mobile

telephone.(fig. 9; page 8 lines 1-28; page 16, lines 3-10; page 17 lines 20-22; page 19,

line 20 – page 20, line 9; page 24, lines 13-23; page 23, lines 4-11; page 26 lines 4-17; page 62 lines 3-5).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Dupray's system to provide for implementing the location procedure in a mobile telephone as this arrangement one of the methods, among many possible methods, for implementing location procedure for determining location of the mobile terminal as taught by Kubo.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (571)272-8098. The examiner can normally be reached on 9 Hr schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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